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(54) Hoof cleaner

(57) A hoof cleaner 1 comprises a hand pump 8 for loading a treatment liquid into brush 14 (or fine tube 19 fig 3). The cleaner has a hoof pick 7 at one end. The cleaner is refillable and brush 14 is replaceable.

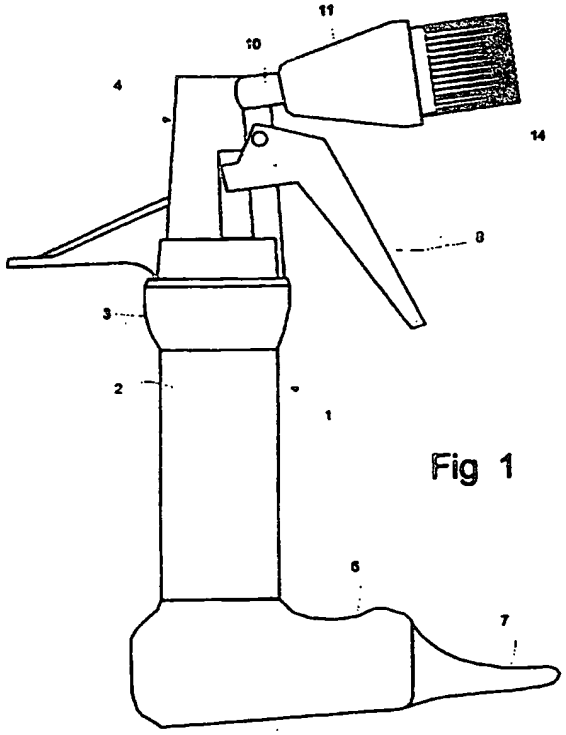

Fig 1

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At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

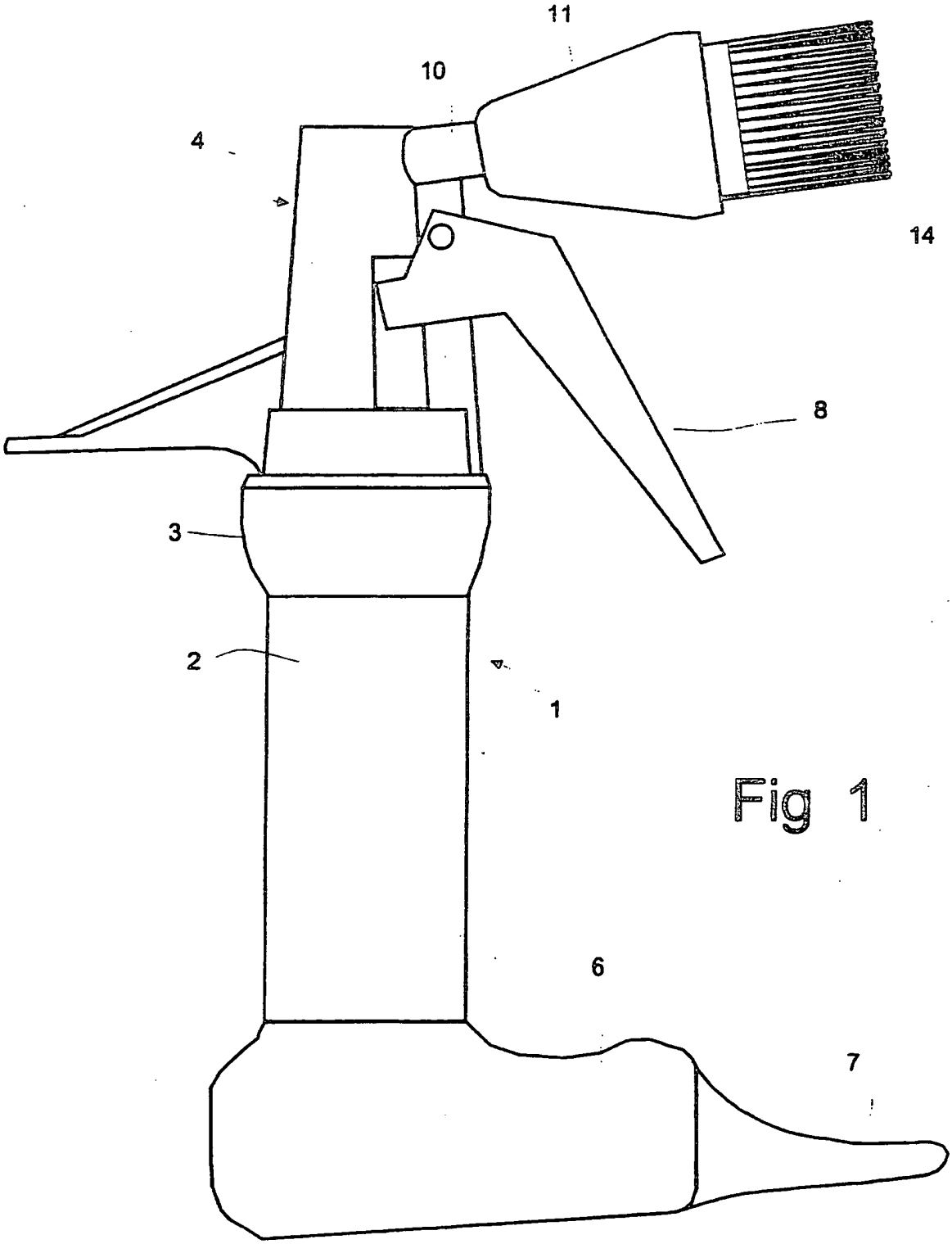


Fig 1

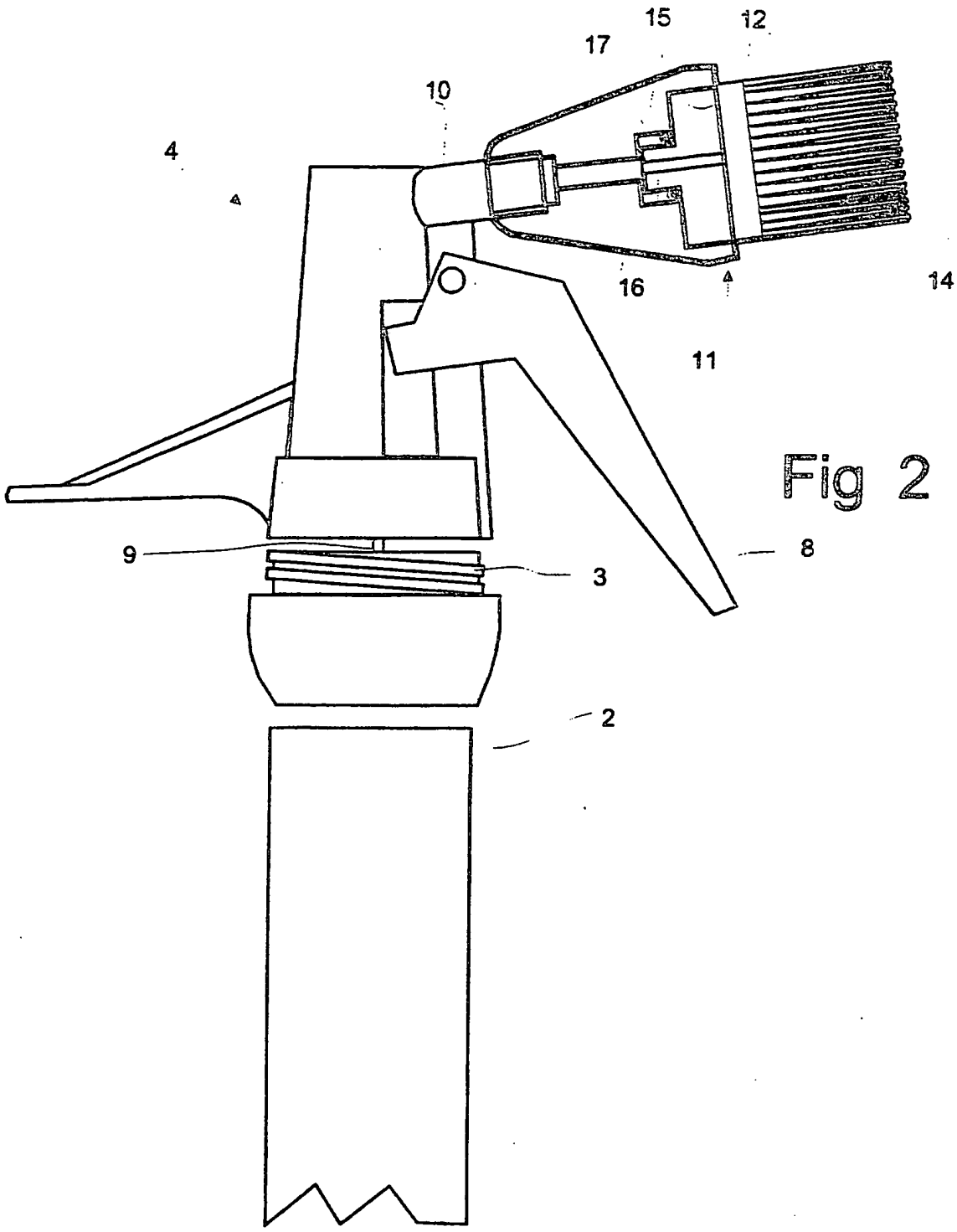


Fig 2

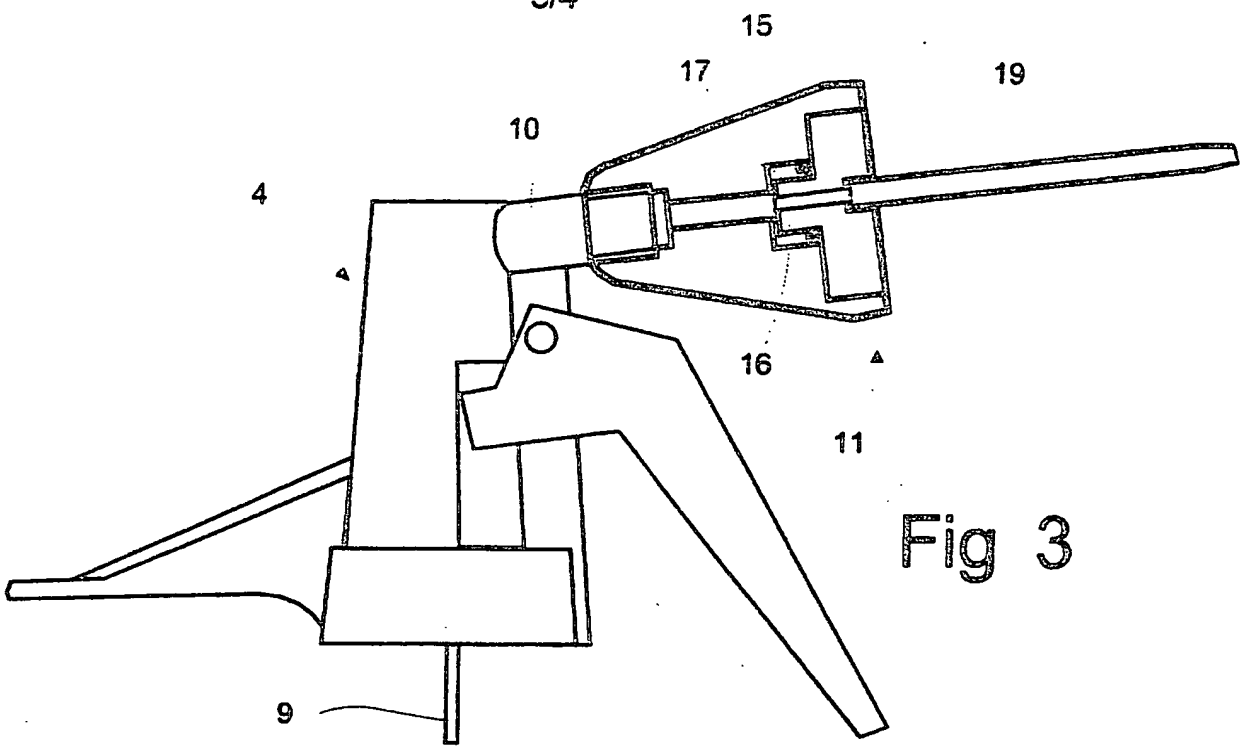


Fig 3

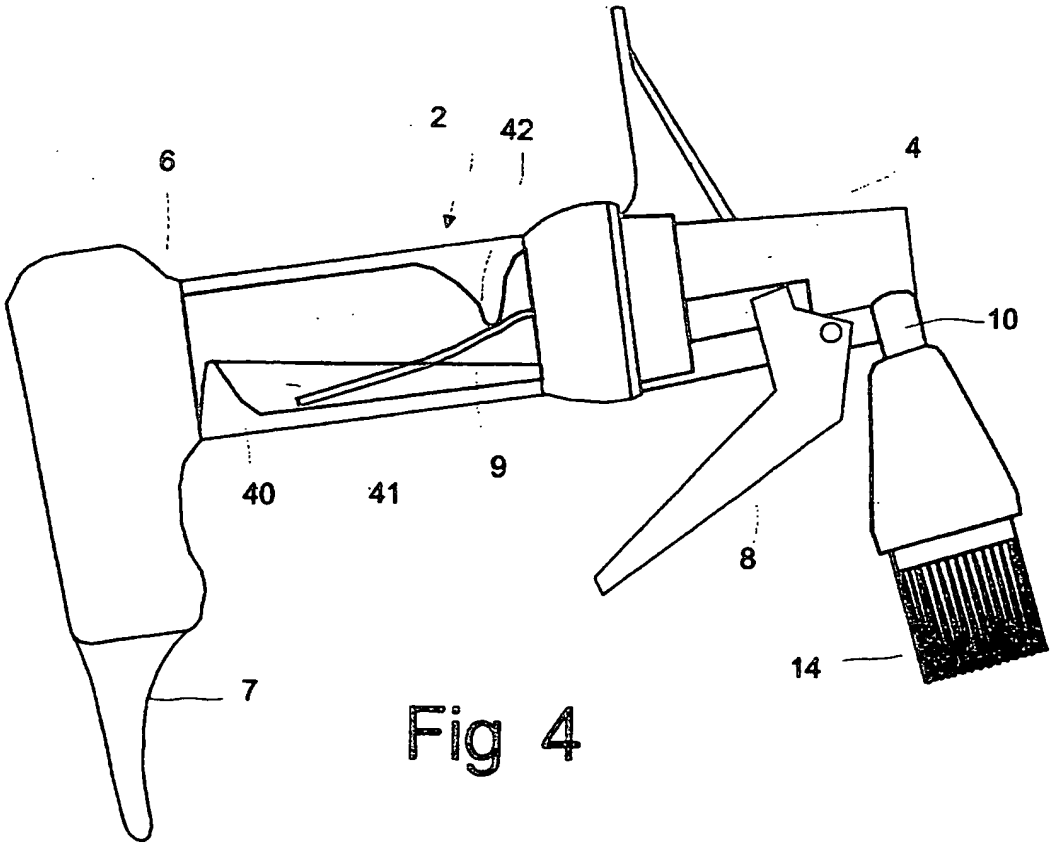


Fig 4

Fig 5

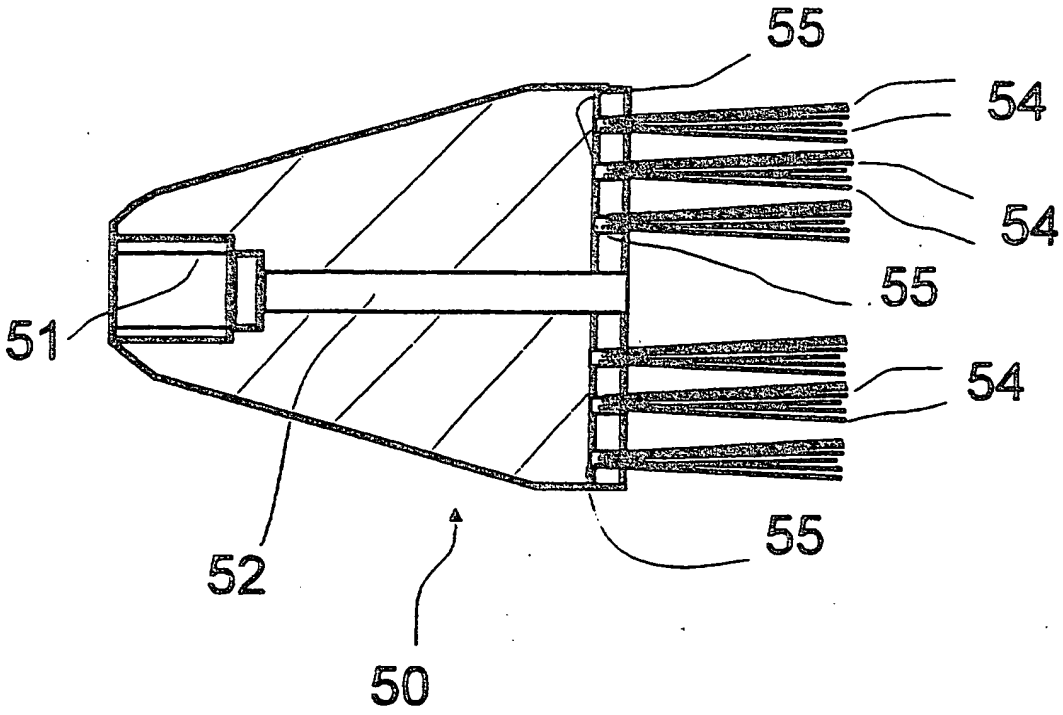
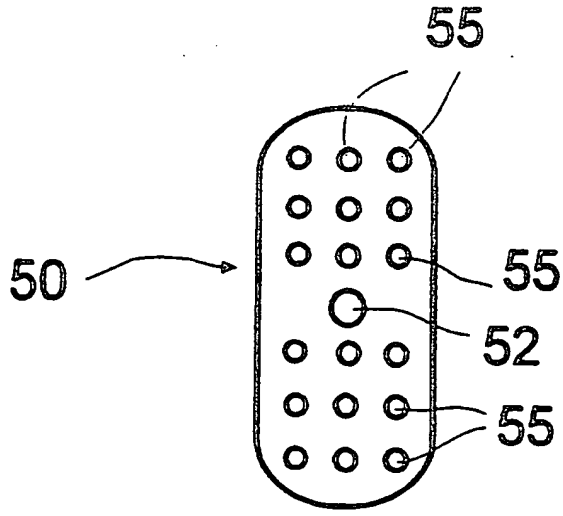


Fig 6



HORSE HOOF CARE DEVICE

Field of the Invention

This invention relates to an animal treatment device, and in particular, but not exclusively, to a device for use in the care and treatment of horses' hooves.

Background to the Invention

Horses' hooves require regular attention to keep them clean and free from infection. Dirt, excrement and stones, for example, become wedged into the underside of the hoof and can cause damage and the introduction of fungal or bacterial infections if not removed regularly. In particular, the medial and lateral clefts of the sole area, known as the frog, are susceptible to collecting foreign matter and to damage by stones and the like. Infections such as the fungal infection known as thrush can, if untreated, lead to lameness and can cause the animal distress.

The principal tool used in hoof care is the hoof pick, which can be made in a wide variety of forms, but typically consists of a thick resilient prong of metal or plastics extending from a handle. The hoof pick is simply used to prise out stones and other solid objects from the underside of the hoof, and to scrape out foreign matter such as mud, straw and excrement. It is then desirable to treat the hoof with an anti-bacterial and anti-fungal liquid to cleanse the hoof and prevent infections from becoming established.

Since many horses are kept in locations away from buildings and running water supplies, the need to carry cleaning water and materials for the treatment of hooves on a regular basis can deter owners from doing the job thoroughly. To make the job easier, manufacturers supply aerosol

and hand-pumped sprays of anti-bacterial and anti-fungal liquid. Unfortunately, these can lead the equestrian to assume that it is sufficient simply to spray each hoof after picking out foreign matter using a hoof pick. However, a hoof pick on its own cannot remove all the foreign matter that penetrates into and around the frog, and the spray therefore does not always reach areas of potential or actual infection, permitting the infection to become deeply established.

The proper cleaning of the hooves requires thorough washing of the frog area after the pick has been used. This usually requires large volumes of water and is therefore impractical where the horse is kept in more remote locations. In addition, it typically involves lifting and holding the hoof twice, first for the picking operation and then for the washing operation. Each hoof has to be treated in this way. The amount of effort involved tends to lead equestrians to carry out the treatment less frequently than would be desirable, even if water supplies are readily available.

US-A-5 168 935 discloses a device which combines a spray with a hoof pick. Such an arrangement still has many of the same limitations as the simple spray device.

Summary of the Invention

According to the invention, there is provided an animal cleaning and treatment device comprising means for spraying a treating liquid, in combination with a cleaning member for use in conjunction with the spray.

The cleaning member may comprise a brush, a sponge, a cloth, or a cleaning pad.

Another aspect of the invention provides a device for use in the care of horses' hooves, comprising in combination a hoof pick, means for spraying a treating liquid, and a cleaning member for use in conjunction with the spray to remove foreign materials from the hoof and to introduce treating liquid thereto.

One aspect of the invention provides a device having a hollow body for containing a treating liquid, means at one end of the body for selectively ejecting a stream of the liquid through a nozzle, a cleaning member surrounding the nozzle, and a hoof pick mounted on the body.

The cleaning member is preferably removably mounted on the body, so that it can be readily replaced when worn, and so that alternative-shaped cleaning members, or alternative types of cleaning members can be used. The cleaning member may be mounted on the body by means of a screw-threaded arrangement, a push-fit connection, a clip or latch connection, or in any other convenient way. The means for ejecting the liquid is suitably a hand-operable pump, for example such as are available for the application of domestic cleaning and polishing materials.

The hoof pick suitably extends from the body at the end thereof opposite to the nozzle, and preferably makes an oblique angle with the longitudinal axis of the body. The body may be formed as a plastics moulding, with the hand pump being incorporated into a screw cap arrangement so that the body can be readily refilled when necessary. The liquid may be a special antifungal and antibacterial liquid, or a domestic disinfectant or antibacterial liquid, suitably diluted. Liquids having no disinfecting capability, such as water may be used.

The cleaning member may comprise a mounting member formed as a plastics moulding, the said nozzle forming part of the mounting member.

In place of the cleaning member, or additionally thereto, a tube may be fitted to inject the liquid into the area surrounding the frog. The tube may also mount a fine cleaning member, e.g. a brush, for work in the cavities around and in the frog.

The device of the invention is convenient to use and permits the equestrian to clean and treat the hoof in one operation, without repeated raising and lowering of the hoof, and to carry out a full treatment without the need to transport buckets of water or multiple tools for the job. this will ensure that the treatment is fully carried out on a regular basis, in turn ensuring that the hooves, and therefore the horse generally, remain healthy.

Brief Description of the Drawings

In the drawings, which illustrate an exemplary embodiment of the invention:

Figure 1 is a side elevation of the device;

Figure 2 is a partially cut away side elevation of the upper part of the device shown in Figure 1;

Figure 3 is a partial view corresponding to that of Figure 2, but showing a tube delivering the liquid, fitted in place of the brush;

Figure 4 is a view on a slightly reduced scale of the device shown in Figure 1, but in its operative position, and with the body partially cut away to show a modification facilitating its use horizontally;

Figure 5 is a cross-section of an alternative brush attachment; and

Figure 6 is a bottom view of the brush attachment shown in Figure 5.

Detailed Description of the Illustrated Embodiment

The device comprises a hollow body 1 moulded in a plastics material such as polyethylene or polypropylene, for example, and having a handle portion 2 with a screw-threaded portion 3 on the upper end thereof (it will be appreciated that the term "upper" is used herein simply to identify components of the device in relation to the illustrated orientation; the device can be used in any orientation). A pump section 4 has a screw-threaded socket which can receive the threaded portion 3 to provide a fluid-tight seal in fastening the two separable parts of the body 1 together. The lower part 6 of the handle portion 2 is shaped so as to extend generally normally to the axis of remainder of the handle portion 2, and carries on the end thereof a shaped metal or plastics hoof pick 7.

The pump section 4 contains a simple lever-operated pump of the type commonly found in domestic cleaning fluid dispensing sprays, and has a lever 8 which can be operated by a person holding the handle portion 2 by pulling the lever towards the handle portion. A feeder tube 9 (Fig 2), which can be provided with a non-return valve on its end if required, extends from the pump into the hollow handle portion 2 to draw liquid therefrom.

The pump delivers the liquid along nozzle tube 10 (Fig 2) which is externally screw-threaded on its free end to receive a mounting member 11, which is provided with an open socket 12 in the free end thereof, the socket being arranged to receive a detachable brush head 14, which can be held in place in the socket 12 by means of a compressible O-ring 15 around

a tubular plug portion 16 of the brush head 14 engaging with an inner socket 17. The bristles of the brush head 14 may be replaced by a sponge or similar. The brush head 14 has an axial opening therethrough to permit the liquid delivered by the pump to pass through the brush and impinge upon the hoof, so that the combined action of the brush and the liquid ensures that the frog of the hoof is cleansed fully and thoroughly.

The brush head 14 is removable not only to allow it to be replaced when worn, but also to permit different sizes, shapes anf types of brush head to be attached. As may be seen in Figure 3, an auxiliary delivery tube 19 device can be fitted in place of the brush 14 to deliver the liquid more precisely, if required. The auxiliary delivery tube device 19, although shown as having simply a plain tube, may itself be provided with a brush on its free end to permit treatment of very small cavities in and around the frog.

Figure 4 shows the interior of the handle portion 2 modified to include a barrier 40 arranged to retain a pool 41 of the liquid in the device when the device is tipped on to its side, as shown in the Figure, and when the level of the liquid is low. A deflector 42 near to the threaded portion 3 deflects the feeder tube 9 so that its end rests within the pool 41 when the device is in the position shown, ensuring that the liquid can still be pumped when required. To replenish the pool, the user needs only to invert the device, and then return it to the horizontal position as shown in the Figure.

Figure 5 shows an alternative mounting member 50 which is provided at one end with an internally screw threaded bore 51 for attachment to the externally threaded nozzle tube 10 (Figure 2), and at the other end

a plurality of groups of bristles 54, each group of bristles being located in bores 55. Between the bore 51 and the end of mounting member 50 which carries the groups of bristles 54, there is located a bore 52, which permits fluid to flow therethrough and imping upon the horse's hoof. In use, when attached to the hollow body 1 (Figure 1) and lever 8 is depressed, fluid flows into one end of the bore 52 and out of the other end of the said bore. The bristles 54 may be used to spread the liquid on the hoof. The mounting member 50 is a one piece unit moulded from a suitable material, such as plastics.

Alternatively, bristles 54 may be omitted from mounting member 50 and in place a sponge, fabric pad or other suitable material may be attached to the end of the said member 50. Such alternative cleaning members may be attached to the end of mounting member 50 by means of gluing for example. It may be necessary to provide an aperture in the alternative cleaning member to allow for the passage of fluid out of bore 52. A tube as shown in Figure 3 may be attached to the downstream end of bore 52. The tube may be an extension of the bore 52 and be formed as part of the plastics moulding.

In Figure 6 it can be seen that the shape of the cleaning member enables the device to be used effectively to clean a horse's hoof.

In use, the horse's hoof only needs to be lifted up once, the device firstly being used as a hoof pick and then, when the foreign matter has been largely removed from the hoof, the device is reversed to permit treating liquid to be applied to the hoof while brushing to remove any remaining foreign matter and dirt within the frog area of the hoof. The device

can be operated one-handed, while the other hand lifts and supports the hoof.

It will be understood that, although reference is made throughout to the treatment of horses' hooves, the device of the invention may readily be used in the treatment of other animals' feet and hooves, and in treating and cleaning other parts of the animal, for example the legs. When fitted with a suitable cleaning member, for example a sponge, or pad, the device can be used for cleaning and/or treating wound sites or areas of stitched flesh.

Claims

1) An animal cleaning and treatment device comprising means for spraying a treating liquid, in combination with a cleaning member for use in conjunction with the spray.

2) A device according to Claim 1, wherein the cleaning member comprises a brush, a sponge, a cloth, or a cleaning pad.

3) A device according to Claim 1 or Claim 2, for use in the care of hooves, comprising in combination a hoof pick, means for spraying a treating liquid, and a cleaning member for use in conjunction with the spray to remove foreign materials from the hoof and to introduce treating liquid thereto.

4) A device according to any preceding claim having a hollow body for containing a treating liquid, means at one end of the body for selectively ejecting a stream of the liquid through a nozzle, the cleaning member surrounding the nozzle, and a hoof pick mounted on the body.

5) A device according to any preceding claim, wherein the cleaning member is removably mounted on the body, so that it can be readily replaced when worn, and so that alternative-shaped cleaning members, or alternative types of cleaning members can be used.

6) A device according to Claim 5, wherein the cleaning member is mounted on the body by means of a screw-threaded arrangement, a push-fit connection, a clip or latch connection, or in any other convenient way.

7) A device according to any of Claims 4 to 6, wherein the means for ejecting the liquid is suitably a hand-operable pump.

8) A device according to any of Claims 4 to 7, wherein the hoof pick extends from the body at the end thereof opposite to the nozzle.

Claims

1) An animal cleaning and treatment device comprising means for spraying a treating liquid, in combination with a cleaning member for use in conjunction with the spray.

2) A device according to Claim 1, wherein the cleaning member comprises a brush, a sponge, a cloth, or a cleaning pad.

3) A device according to Claim 1 or Claim 2, for use in the care of hooves, comprising in combination a hoof pick, means for spraying a treating liquid, and a cleaning member for use in conjunction with the spray to remove foreign materials from the hoof and to introduce treating liquid thereto.

4) A device according to any preceding claim having a hollow body for containing a treating liquid, means at one end of the body for selectively ejecting a stream of the liquid through a nozzle, the cleaning member surrounding the nozzle, and a hoof pick mounted on the body.

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6) A device according to Claim 5, wherein the cleaning member is mounted on the body by means of a screw-threaded arrangement, a push-fit connection, a clip or latch connection, or in any other convenient way.

7) A device according to any of Claims 4 to 6, wherein the means for ejecting the liquid is suitably a hand-operable pump.

8) A device according to any of Claims 4 to 7, wherein the hoof pick extends from the body at the end thereof opposite to the nozzle.

9) A device according to Claim 8, wherein the hoof pick makes an oblique angle with the longitudinal axis of the body.

10) A device according to any of Claims 4 to 9, wherein the body is formed as a plastics moulding, with the hand pump being incorporated into a screw cap arrangement so that the body can be readily refilled when necessary.

11) A device according to any preceding claim, wherein in place of the cleaning member, or additionally thereto, a tube is fitted to inject the liquid into the area surrounding the frog.

12) A device according to Claim 11, wherein the tube mounts mount a fine cleaning member for work in the cavities around and in the frog.

13) A device according to Claim 12, wherein the fine cleaning member is a fine bristled brush.

14) A device according to any of Claims 4 to 10, wherein the cleaning member comprises a mounting member formed as a plastics moulding, the said nozzle forming part of the mounting member.

15) A device according to any preceding claim, wherein the liquid is an antifungal and antibacterial liquid suitable for use on horses' hooves, or a liquid having no disinfecting capability, such as water.

16) An animal cleaning and treatment device substantially as described with reference to, or as shown in, the drawings.

The Patent Office

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Application No:	GB 9708529.4	Examiner:	Ross Cavill
Claims searched:	1 to 16	Date of search:	3 July 1997

Patents Act 1977
Search Report under Section 17

Databases searched:

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Other: Online:WPI

Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X	EP 0648410 A1	(JOOS) whole doc, note tube 21	1-6,9,11, 12,14,15
X	US 5168935	(THORNBURY) whole doc, note applicator 71 in fig 2	1-3,5-10,14,15
X	US 4922859	(DURELL) whole doc	1,2,5-7,10-12,14,15

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